MATOS MONITORING

Full Website User Guide Ver. 1.1   01/2020

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MATOS Monitoring Guide

Main

Title/Status Bar

The title or status bar features the organisation logo, as well as the system time/date, number of active account alerts, and user account status.

At any time, clicking the MATOS logo on the top left of the website will return you to the Dashboard/Landing page.

Hovering the mouse cursor over the number of alerts in the top right will display a drop-down list of the currently affected assets, which can then be directly navigated to by clicking on their name.

Hovering the mouse cursor over the user name in the top right will display a drop-down list where you can select to verify the account email address or log the current user out.

Note: Email verification is highly recommended and will make automatic password recovery possible. Alternatively, you can contact support@matosmonitoring.com for assistance.

Menu Bar

The menu bar is located to the left-hand side of the page and is always present, regardless of the page selected.

The menu bar is able to be condensed to icon only size by clicking on the icon located at the top of the menu bar, with four stacked lines:
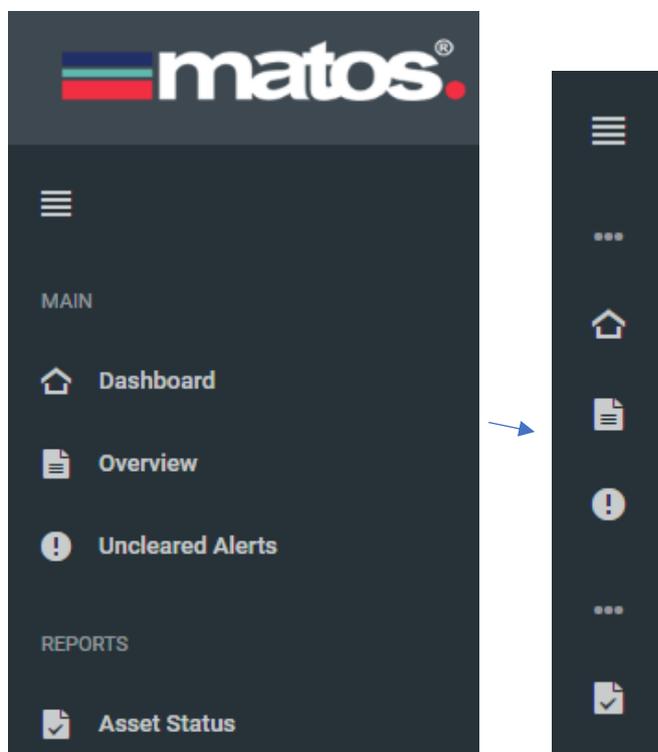
The menu bar can be used to navigate to all sections of the website. It is split up into three main sections:

Main – Contains links for the main live monitoring functions: Dashboard, Overview and Active Alerts Pages

Reports – Contains the functions for custom reports, and in-depth asset statuses.

Settings – Contains all the pages where user, location, device or asset settings are located.

Hovering the mouse over an icon in condensed form will display a label of the page represented.

Dashboard Page

The dashboard is intended to provide a means to monitor a large number of assets, with the ability to select up to ten "critical" assets that require close attention.

The page is split up into 4 sections:

System Overview

The system overview is a status box located in the upper left of the Dashboard page which provides system information about the account. The 4 key pieces of information here are the number of uncleared historical alerts for the account, number of alerts generated in the last 24 hours, average alert response time, and finally the total number of sms's sent in the last 24 hours.

Alerts Overview

The alerts overview box is located in the upper right of the Dashboard page and provides the following information: The number of currently active or uncleared alerts, the number of alerts generated in the previous 24 hours, and the average alert response time. Note that the average response time is a monthly rollover. Any alerts older than 1 month are not counted.

Critical Assets List

The critical asset list, located in the bottom left of the Dashboard Page, allows for the selection of up to ten "Critical" or "Favourite" assets to be closely monitored. The assets in this list have all current information available at a glance, and are able to be quickly selected to display their graph and current status information in greater detail, without needing to navigate away from the Dashboard.

The critical asset list displays the Asset Name, Time of last data communication, last temperature received & the current trend/difference since last reading received, and a status indicator.

The possible status indicators and icons displayed in the critical asset list are as follows:

⤴	≋	⤵	DNR	TEMP	OK	DISABLED
Value increased	Value no change	Value decreased	Device lost connection with server for more than 15 mins	Sensor value is out of safe range	No warning	Device / Asset is not active

Note that for the temperature trend symbols displayed, the trend is calculated by comparing the latest received temperature value, with the average of the previous 4 received temperature values. This ensures the trend is kept consistent and is not susceptible to fluctuating conditions.

The far-right hand column is labelled actions and feature a button next to each asset which can be used to view both the report, or to view the Asset Status Summary page. Clicking the name of any critical asset ibn the list will set the graph and status summary on the dashboard page to be set to that asset. The primary asset is merely the default asset that appears in the Primary Asset View when the Dashboard page is loaded. When the primary asset is changed in this manner, it will only persist until the page is navigated away from.

It is possible to reorder the critical assets list (and to permanently set a Primary Asset) by clicking the "Manage Critical Assets" link below the table legend. The assets can then be dragged to their new positions using the mouse cursor. The asset in the top position is the set Primary Asset.

To add assets to the Primary Asset list, click the link underneath the table legend: "Add more assets to my list". This will navigate the user to the full list of assets assigned to that account. To add to the critical assets list, simply favourite/star icon next to the asset:

Crit	Actions	Deleted?	^	ID	⇕	Name	⇕	Type	⇕
★	Delete | Edit	False		458		Matos Cloud 625 Fridge		Fridge	

Primary Asset View

The primary asset view, located in the bottom right of the Dashboard Page, displays an interactive graph, as well as detailed status information for the "Primary Critical Asset" in the "Critical Assets List".

Example primary Asset:
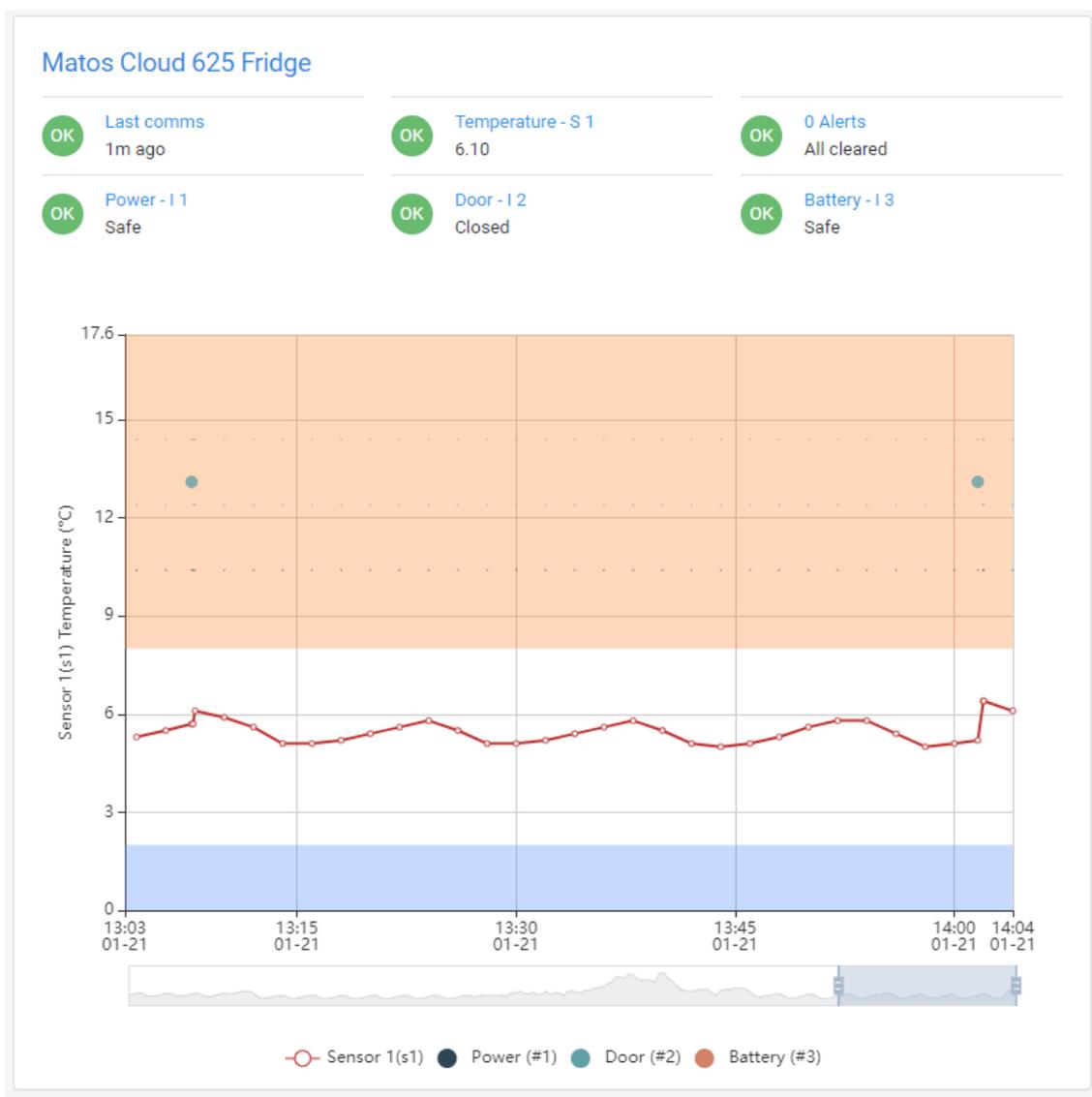
The graph is generated automatically for the previous hour. The graph can be zoomed in our out simply by hovering the mouse cursor over the graph section and scrolling the mouse wheel. This function is also compatible with "touch shortcuts" such as using two fingers to scroll on a laptop touch pad.

The graph can be scrolled left and right along the timeline by clicking and dragging the scroll bar under the X-axis timescale. Note this bar also indicates how zoomed in the graph currently is by growing and shrinking in size as the graph is zoomed in and out.

The asset name is displayed above the graph.

The graph is set to scale depending upon the recorded values, this means the X-axis will not necessarily be centred on the 0 point.

The orange and blue shaded sections of the graph signify the upper and lower alarm threshold limits as set in the Asset Settings.

Temperature (or humidity) trends are designated by a series of interconnected data points.

Digital input status indicators are designated by coloured dots placed at the appropriate time, for example:
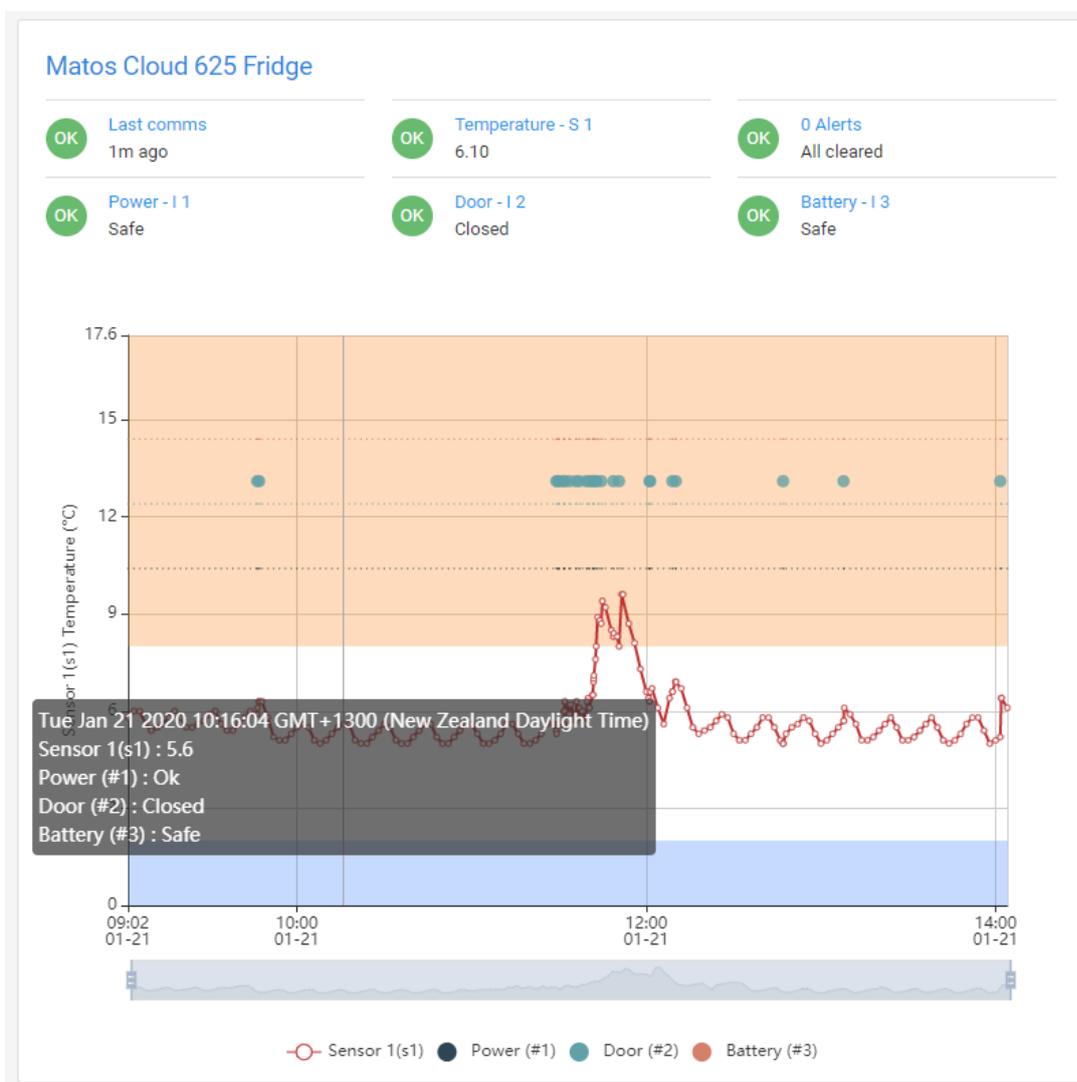
To the right of the graph, there is also a table showing the current status as applicable to the current asset. E.g. if there is a door input assigned, the status of this will be displayed here. All assets will display at least the last communication time, Sensor 1 value, and alert status.

Note that hovering over the graph data points will show the summary for that data point.

Overview Page

The overview page lists all currently monitored assets under a customer-level account.

Overview Search

If the user currently logged in has Organisation Level privileges, you are able to switch between the customer accounts assigned to the Organisation account by using the 'Customer Name' dropdown box.

The table of assets can also be refined by typing the Asset name or Device serial number and clicking 'search'.

Overview Table

The overview table lists all assets and devices under the currently selected customer account.

Site	Asset	Type	Last Comms	Sensors	Inputs	Alert Status
Example Site	Matos Cloud 625 Fridge ⧉	Fridge	2020-01-21 02:06:01	5.7 °C	ON CLOSED OK	Clear Alerts / Alert History

The latest sensor and digital input information is displayed in the appropriate column.

The current alert status is shown in the far-right column as well as links to clear alerts and view alert history for a particular asset.
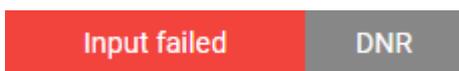
Status Indicators and Colours

An asset can be quickly checked for alarm statuses by checking the highlighted colour of the table row.

The following status colours are possible to be displayed:

Temperature:

Critically Cold	Too Cold	Normal Range	Warm	Too Warm	Critically Warm

Input and Communication Status:

Input failed	DNR

Clearing Alerts

If an asset required alerts to be cleared, you can click the "Clear alerts" button, which will open a new window with the active alerts for that asset.

To clear an alert, simply click the check box next to the alert, the name of the person clearing the alert and the action taken. Click save to confirm.

Note: Alert clearance messages are unable to be edited once confirmed. This is to ensure a robust audit trail. An alert will only clear if a Name and Action is entered.

Alert History

Finally, you can view alert history for a particular asset by clicking the 'View cleared Alerts' button in the top right of the page. The "Back to list" button will return the user to the Active alerts page. See Active Alerts section for more information.

Uncleared Alerts

The uncleared alerts page lists all assets under the current account level, which have active or uncleared alerts. To refine the list, simply start typing into the search box labelled 'filter'. To reset the list, clear all text from the search/filter box.

Clicking the Asset Name of any asset in the list will take the user directly to the asset settings page.

Clearing Alerts

If an asset required alerts to be cleared, you can click the "Clear alerts" button, which will open a new window with the active alerts for that asset.

To clear an alert, simply click the check box next to the alert, the name of the person clearing the alert and the action taken. Click save to confirm.

Note: Alert clearance messages are unable to be edited once confirmed. This is to ensure a robust audit trail. An alert will only clear if a Name and Action is entered.

Alert History

Finally, you can view alert history for a particular asset by clicking the 'View cleared Alerts' button in the top right of the page. The "Back to list" button will return the user to the Active alerts page. See Active Alerts section for more information.

Reports

The reports section allows access to detailed information about the monitored assets and devices. There are three different types of report available: Asset Status, CSV Export and Full Asset Report.

Asset Status

The 'Asset Status' link in the menu bar will navigate the user to a detailed overview of a single asset as per the latest received data. The Asset Status page is set to automatically refresh every few minutes.
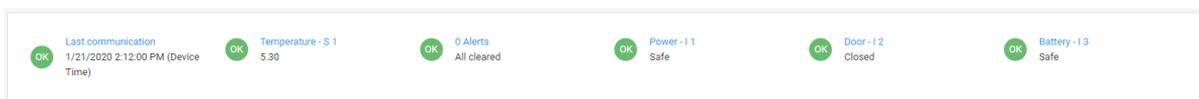
To select an asset to view, use the Org/Customer/Site and Device/Asset drop-down lists.

Select and 'End Date/Time'. This is the time/date to view data until. Leave this unchanged to view the latest available data.

Select a range of daily/weekly/monthly to easily set the date range to view.

Finally select the sensors and digital inputs you wish to view the status of on the graph and click 'check'. You can also generate a pdf report directly by clicking 'Generate PDF'.

The graph will be generated underneath the search filter box, underneath a status indicator box showing the latest status information for the Asset:
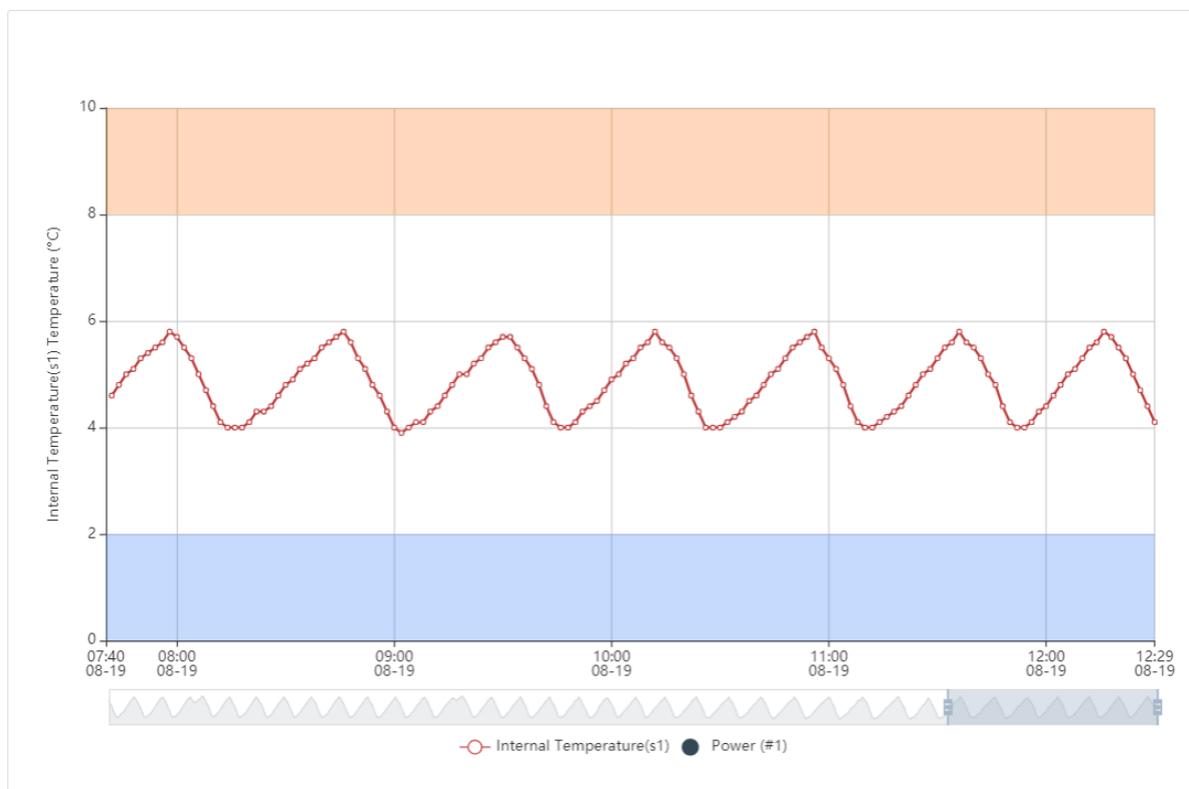
To the right of the graph is a summary of the sensor alarm critical thresholds and a list of assigned alert contacts for the asset being viewed,

The graph can be scrolled left and right along the timeline by clicking and dragging the scroll bar under the X-axis timescale. Note this bar also indicates how zoomed in the graph currently is by growing and shrinking in size as the graph is zoomed in and out.

The asset name is displayed above the graph.

The graph is set to scale depending upon the recorded values, this means the X-axis will not necessarily be centred on the 0 point.

The orange and blue shaded sections of the graph signify the upper and lower alarm threshold limits as set in the Asset Settings.

Temperature (or humidity) trends are designated by a series of interconnected data points.

Digital input status indicators are designated by coloured dots placed at the appropriate time of activation.

Below the graph, will be displayed the high and low values for each sensor, as well as a summary of the digital input activation times: e.g.

Absolute high and low temperature received for Sensors

Summary for Sensor 1(s1)

Date Time	Max	Min	Avg
2019-08-18	19.80	19.50	19.67
2019-08-19	20.00	19.50	19.68

CSV Export

The 'CSV Export' link in the menu bar will navigate the user to a tool for exporting a Device's stored data as a csv formatted file.

Select the Customer and Site/Device from the drop-down lists then select a date range using the calendar buttons next to the 'From' and 'To' fields.

Press 'Export' to start the CSV file download or 'Reset' to clear the fields. Note that times in the CSV file are stored in **server time** which is AEST (UTC +10). You will need to apply your own time offset if working with the raw data in this manner.

Reports

The 'Reports' link in the menu bar will navigate the user to a full Asset Report tool. This will allow to user to view a detailed history of temperature and input status information. Unlike the Asset Status page, this page will not auto refresh.

Select the Asset to view information for by using the Org/Customer/Site and Device/Asset drop-down lists. Select the date range in question by using the calendar buttons next to the 'From' and 'To' fields.

Using the checkboxes, select which Sensors and Digital Inputs you wish to view on the graph. *Note: include relays refers to devices equipped with the Patented MATOS Override function. This option will include the activation of the too hot or too cold control relays on the graph's time scale.*

Finally, checking the 'Default Report Template' checkbox will save the current settings as the default report template. This will change how the automatic reports are displayed.

Once all fields have been filled in as required, click the 'View' button to display the report on screen or 'Generate PDF' to begin downloading a PDF version of the selected report options.

Click 'Reset' to clear the search fields.

Note: clicking 'View' to view the report on screen will display the interactive graph, daily min/max recordings and Digital Input activations (e.g. door openings or power failures).

Automatic Reports

Reports can be delivered automatically to both the account holder's email as well as any assigned alert contacts for a particular asset. This is turned on by default for the account owner, and can be selected on each alert contact's setting page.

Reports are delivered as a PDF attachment and the "template" is set by selecting the "Save as Default Report" on the Reports page. The frequency of report can be set on the "Devices" settings page; daily, weekly or monthly.

Reports include graphs for the selected sensors, a daily min/max summary, a list of extreme values (values recorded outside of the temperature alarm range) and digital input activation times (e.g. door openings or power failures).

Information & FAQs

Alert Rules

The MATOS Monitoring System is designed to be utilised by a wide range of sensors and logging scenarios. Because of this, the default alarm behaviour is designed for an **unfiltered** sensor measuring **air temperature**. This means live temperature monitoring with no buffer material slowing down the sensor. To be compliant with international cold chain requirements, there is a set of intertwining and cascading alerting rules that are in place.

These alert rules collate with 5 temperature alarm thresholds: Critical Low, Caution Low, High, Caution High, Critical High.

The alert rules are as follows:

1. If 4 readings within a 15-minute period are detected between the 'High' and 'Caution High' values, a **Tier 1 high alert** is generated.
2. If 2 consecutive readings are detected between the 'Caution High' and 'Critical High' thresholds, a **Tier 2 high alert** is generated. This alert takes priority over Tier 1 alerts.
3. If a single reading is detected equal to or above the 'Critical High' threshold, a **Tier 3 high alert** is generated. This alert takes priority over both Tier 1 and Tier 2 alerts.
4. If 2 consecutive readings are detected between the 'Caution Low' and 'Critical Low' thresholds, a **Tier 2 low alert** is generated. Note that there is no Tier 1 alert on the lower side.
5. If a single reading is detected equal to or below the 'Critical Low' threshold, a **Tier 3 low alert** is generated. This alert takes priority over the Tier 2 alert.

   Notes: A alert tier only applies to alarms of the same type. I.e. a Tier 2 cold alert will not take priority over a Tier 1 warm alert, they are treated as different events.

The main purpose of the alert rules is to comply with international cold chain standards, whilst being able to provide options for live air temperatures monitoring and to be able to combat against false alarms due to door opening events.

If the sensor used has physical buffering or filtering methods applied, you may not wish to use the in-built alarm tiers. To use discrete alarm tiers only (e.g. instant alarm), simply set the 'High', 'Caution High', and 'Critical High' values to the same number (e.g. 12 degrees).

Alert Repeats & Return to Normal Status

The MATOS Monitoring System has the ability to set an asset to repeat active alerts at a set interval until it is cleared and also to send an additional 'All Clear' message should an alarm situation resolve itself.

To set repeating alerts, simply click the checkbox on the 'Asset' settings page. The delay between repeat messages can be set here also (default time is 5 minutes). Note that there are 3 options for repeating alerts: Repeat all alerts, repeat no alerts, and repeat critical alerts only.

The following alerts are considered **critical alerts**: *Tier 3 High, Tier 3 Low, Power failure, Network Failure.*

Once an asset is set to repeat alerts, any active alarm on that asset will repeat until the alert condition is resolved or a user logs in and clears the alert manually.

There is also an option on the 'Asset' settings page which will enable a 'Return to Normal' message to be sent whenever an active alarm situation is resolved.

SMS Allowances & Suspensions

Due to the cost involved in sending SMS transmissions, each customer is limited to a finite amount per 24-hour period. Should the SMS limit be reached due to excessive alerts generated, a final SMS message will be sent advising that a 24 SMS suspension will be put in place to stop excessive SMS bills. Note that in all circumstances, **email alerts will always continue to be sent and will never be restricted.** For this reason, the SMS alerts are considered to be the secondary form or alerting, email is always the priority form of alerting. As the SMS messages are delivered by a third-party provider, MATOS Monitoring is unable to take responsibility for delivery of SMS messages. The default SMS allowances are 20 SMS messages per device or 50 per Customer account within a 24-hour period.

If the 24 SMS suspension period elapses and the device in question is still generating excessive alerts, a further single message will be sent advising the SMS suspension will be extended for a further 24-hour period.

For more information or to discuss increasing your daily SMS allowance, please contact your MATOS Monitoring representatives.

Account Hierarchy

The MATOS Monitoring Service features an account Hierarchy system. Below is a diagram showing how the different account levels interact and where site, device and asset information is assigned to.
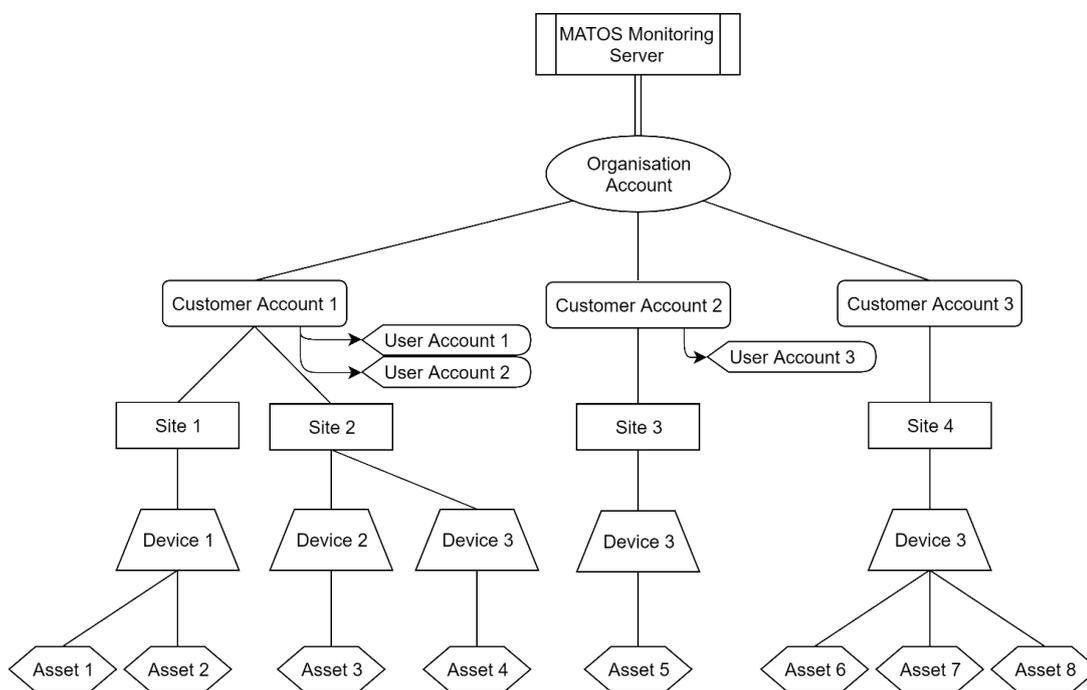
Support Information

For support information please contact your local MATOS Monitoring provider or email support@matosmonitoring.com.

FAQs

Glossary

Dashboard – *Main landing page which displays statistics and critical asset information.*

Overview – *A page displaying the full list of assets monitored under a customer level account.*

Device – *A device refers to the physical monitoring unit (Data Acquisition Unit) hardware e.g. M-310*

Asset – *An asset refers to the entity being monitored e.g. refrigerator or room temperature.*

Alert – *An alert is an alarm state message generated when an asset exceeds its alarm thresholds or detects a failed digital input or communication sate.*

Alarm threshold – *A value set a which an alert is generated if an Asset's monitored temperature or humidity exceeds or drops below this value.*

SMS – S*hort for "Short Messaging Service" also known as a text message. Delivered to a mobile phone.*

DNR – Short for "Data Not Received". Refers to communication status of a device.

Organisation Account - *The highest tier or 'admin' user account. All 'Customer' level accounts are assigned to an 'Organisation' level account.*

Customer Account – *The second level account below 'Organisation' level. All 'Sites' are assigned to a 'Customer' level account.*

User Account – *A 'User' level account allows access to view and clear alerts under a 'Customer' level account; however, all settings are unable to be accessed or changed.*

Site – *A 'Site' is the location at which a 'Device' is registered. All sites must be assigned to a 'Customer' level account.*

Sensor – *A sensor is a temperature or humidity sensor which is connected to a 'Device' and used to record the temperature or humidity of an 'Asset' in real time.*

Digital Input – *A digital input refers to anything that monitors an on/off or 1/0 state. E.g. door open status or power status. A digital input is connected to a 'Device' and monitors the input state for an 'Asset'.*

Alert Tier – *An alert tier refers to the ranking given to alerts generated within the same category. A higher tier alert within a category will take priority over other alerts within the same category. E.g. a Tier 3 high temperature alert takes priority over a Tier 1 high temperature alert.*

Alert ID – *An alert ID is a unique identification number automatically assigned to an instance of an alert occurring, allowing the ability to track the individual alert via an audit trail.*

Device ID – *A device ID is a unique identification number automatically assigned to a monitoring hardware device that is set up under a 'Customer' account.*

Asset ID – *An Asset ID is a unique identification number automatically assigned to a monitored Asset that is being monitored by a Device.*